CLAIMS

1. A method for manufacturing an SOI wafer comprising the steps of:

forming an insulating layer on at least one wafer of two starting wafers; and

adhering the one wafer to the other wafer without using an adhesive,

wherein a PV value of a surface of the insulating layer is 1.5 nm or less.

2. The method for manufacturing an SOI wafer according to claim 1,

wherein the PV value of the surface of the insulating layer is controlled to be 1.5 nm or less by using a wafer free of a pit cluster thereon as the one wafer.

3. The method for manufacturing an SOI wafer according to claim 1 or 2, comprising the steps of:

forming an insulating layer on at least one wafer of two starting wafers;

implanting hydrogen ions or rare gas ions through an upper surface of the one wafer to form a micro-bubble layer in the interior of the one wafer; thereafter

bringing the surface of the one wafer through which the ions have been implanted into contact with the other wafer through the insulating layer interposed therebetween; then

separating a part of the one wafer with the micro-bubble layer as a cleavage plane by applying heat treatment for the rest thereof to become a

thin film; and

bonding strongly the one wafer in the form of a thin film to the other wafer through the insulating layer interposed therebetween by applying further heat treatment.

4. The method for manufacturing an SOI wafer according to any of claims 1 to 3, wherein wafers are inspected on the presence or absence of a pit cluster on a surface of each wafer, wafers having no pit cluster thereon are selected and the selected wafers are employed as starting wafers.

5. The method for manufacturing an SOI wafer according to any of claims 1 to 4, wherein wafers mirror polished in an environment where a heavy metal concentration is 10 ppb or less are used as the starting wafers.